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Oncogenesis in the Rabbit: Genetic Susceptibility, Vertical Transmission of Virus and Environmental Influences.

The investigators believe that three conditions in two related strains of rabbits, hereditary lymphosarcoma and hemolytic anemia which is occasionally associated with thymomagenesis, are caused by a single autosomal recessive gene conferring susceptibility and a vertically transmitted C RNA tumor virus.

To induce, activate and isolate the putative rabbit type C RNA tumor virus five approaches are being used: (1) graft-versus-host reaction in vivo; (2) mixed lymphocyte reaction in vitro; (3) a combined in vitro carcinogen-halogenated nucleotide treatment; (4) cocultivation of rabbit cells with heterologous cells; and (5) tumor induction in vivo with intradermal injections of bovine papilloma virus.

Thus far, they have made three major findings: (1) the likely identity of the genes conferring susceptibility to both lymphosarcoma and immune hemolytic anemia; (2) the probable presence in rabbits of an oncogenic RNA tumor virus; and (3) the occurrence of Coombs' autoantibodies. A putative viral isolate is now being characterized.

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